Joint Surveillance Target Attack Radar System (Joint STARS)

New Horizons Symposium

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Presented By:
Col Bob Latiff
System Program Director
   for Joint STARS
ESC/JS
781-377-6759

The Need For Ground Surveillance Is As Old As Warfare

Joint STARS

"The whole art of war consists on getting at what lies on the other side of the hill, or in other words; in deciding what we do not know from what we do know."

- Duke of Wellington

Outline

- ◆ **Organization**

- ◆ **Mission/System Description**

- ◆ **Existing Contracts**

- ◆ **New Projects/Industry Opportunities**

- ◆ **Future Needs/Trends**

Organization

Col Bob Latiff
System Program Director
ESC/JS
(781) 377-6759

Col Larry Roseland
International Pgms
ESC/JSI

Mr. Ron Mason
Deputy Program Director
ESC/JS
(781) 377-6759

Col Tom Beil
Sys Support Mgr
WR-ALC/LKS
Robins AFB, GA

Col Scott Parks
Joint Test Force
JTF/DD
Melbourne, FL

Mr. Bob LeBoeuf
Program Control
ESC/JSX
(781) 377-6820

Col Joe Magnone
Contracts
ESC/JSK
(781) 377-6858

Lt Col Dan Romano
Systems Engineering
ESC/JSE
(781) 377-6744

Lt Col Dave Temple
Plans & Integration
ESC/JSP
(781) 377-8228

Mr. Ted Georgian
SPO Operations
ESC/JSO

Lt Col Steve MacLaird
Production Programs
ESC/JS1P

Ms. Morgiewicz
Block 10
ESC/JS1C

Lt Col Ken Ols
Block 20
ESC/JS1T

Maj Dean Phillips
Block 30
ESC/JS1S

Maj Sue Thibodeau
Support Systems
ESC/JS1R

Maj Jeff Van Etten
Advanced Devel
ESC/JS1Q

Mission

- **Provide Deep Battle Field Survellance**
- **Detect, Locate, And Track Moving Targets**
- **Provide Targeting Information To Commanders**
- **Support Battle Management, Force Allocation, And Damage Assessment**
- **Respond Rapidly To Worldwide Contingency Operations**
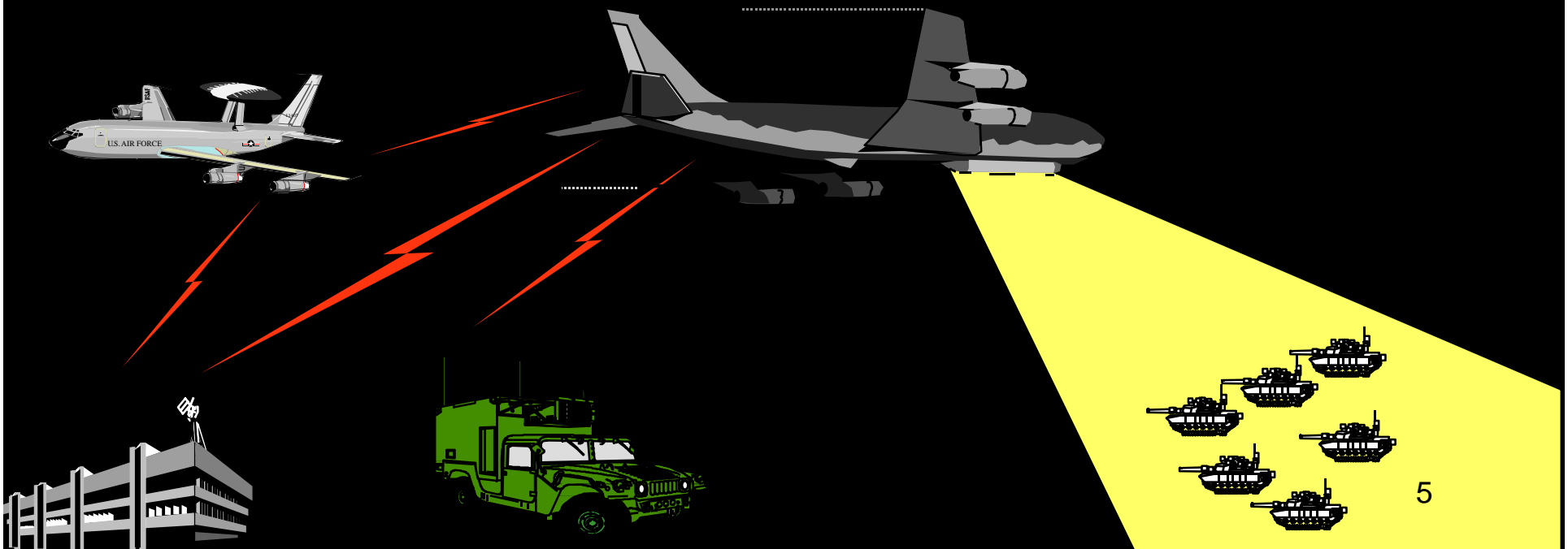
Joint STARS System

♦ **Joint air & ground segments**
  - ➤ **Air Force E-8C aircraft (13 total)**
    - • **Northrop-Grumman prime contractor**
    - • **Only airborne platform with Wide Area Surveillance Moving Target Indications (MTI) w/interleaved Synthetic Aperture Radar (SAR) imagery**
    - • **Robust communications platform**
      - – **UHF, VHF, HF, SCDL, JTIDS, SATCOM**
  - ➤ **Army Common Ground Station (CGS)**
    - • **Motorola prime contractor**
    - • **Receives aircraft data via Surveillance and Control Data Link (SCDL)**
    - • **Operations & Control workstation similar to aircraft**
    - • **Interfaces with other US Army platforms/systems**
    - • **Approximately 25 per Corps (44 with options for 137 total)**

Existing Contracts

- ◆ **Computer Replacement Program (Block 20)**
  - ➤ Development phase awarded May 97
    - Northrop Grumman: F19628-90-C0197
  - ➤ **Convert to COTS open systems**
    - Replace 5 MILVAX central computers
    - Replace 18 workstation processors and displays
    - Upgrade LAN to fiber optics
    - Replace DMS radar processors
    - Upgrade ground support systems and trainers
  - ➤ **Current value $128M / Total program $311M**

New Projects

- **Improved Data Modem (IDM) (Block 30)**
- **Schedule**
  - Award $5M CLIN Jan 98 for prototype system
  - Anticipate future funding (FY00-03) for remainder of program
- **Program Value**
  - $21M
- **Customer**
  - Army
- **POC**
  - Maj Dean Phillips
  - ESC/JS1S
  - (781) 377-5445

Industry Opportunity

Joint STARS

- ◆ **Project: Improved Data Modem**
- ◆ **Objective: Provide Joint STARS data to Army helicopters for situational awareness and targeting**
- ◆ **Anticipated Procurement Approach**
  - ➤ Modify existing contract with Northrop Grumman
  - ➤ Integrate GFE IDM and SINCGARS VHF radios
  - ➤ Related prior efforts: Risk reduction demonstration by Northrop Grumman Oct - Dec 97
  - ➤ Subcontracting Opportunities
    - • Processor Hardware and Software, antennas, power amplifiers
  - ➤ Anticipated contract type: CPIF and CPAF

New Projects

- **UHF DAMA SATCOM (Block 30)**
- **Schedule**
  - ➤ RFP Jan 99
  - ➤ Award Aug 99 delivery order under anticipated IDIQ
- **Program Value**
  - ➤ $78M
- **Customer**
  - ➤ ACC
- **POC**
  - ➤ Maj Dean Phillips
  - ➤ ESC/JS1S
  - ➤ (781) 377-5445

Industry Opportunity

♦ **Project: UHF DAMA SATCOM**

♦ **Objective: Improve voice and data performance and interoperability plus add DAMA capability**

♦ **Anticipated Procurement Approach**

➤ Modify a contract with Northrop Grumman

➤ Integrate new hardware and software

➤ Related prior efforts: Study by Northrop Grumman Nov 96 - Feb 98

➤ Subcontracting Opportunities

➤ Software, radios, antennas, filters, processors

➤ Anticipated contract type: CPAF

New Projects

◆ **Joint STARS Programmed Depot Maintenance & Contractor Logistics Support (CLS)**

◆ **Schedule**
   ➤ CBD 22 Oct 97
   ➤ RFP Jan 99
   ➤ Award Sep 99

◆ **Program Value**
   ➤ $200M

◆ **Customer**
   ➤ ACC

◆ **POC**
   ➤ Ms. Betty Cook
   ➤ WR-ALC/LKSA
   ➤ (912) 926-7504

Industry Opportunity

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- ◆ **Project: <u>Joint STARS Programmed Depot Maintenance & Contractor Logistics Support</u>**
- ◆ **Objective: Provide depot support for the E-8 Boeing 707 airframe and system hardware**
- ◆ **Anticipated Procurement Approach**
  - ➤ Competitive award
  - ➤ Programmed Depot Maintenance (PDM) for B-707 and CLS for COTS equipment on aircraft and ground support systems
  - ➤ Related prior efforts: CLS with E-Systems FY94-99
  - ➤ Anticipated contract type: Multiple (Fixed Price, Cost Reimbursement, Time & Materials)

Future Needs/Trends

- **Improved Computing Infrastructure**
    - COTS Transition, Open Systems, GCCS compatible
- **Improved Operator Aids**

    - Raster maps, underlays, trackers, ATO database
- **Sensor Improvements**

    - ESAR, ISAR, High Res MTI, Maritime mode
- **Enhanced Data Distribuion**
    - Advanced waveforms for higher thruput (trellis coding)
    - Better data compression algorithms
    - Wideband data links for LOS and BLOS (6-20 Mbps)
    - Increased Interoperability
- **New Features**

    - Combat ID, ATR, ESM, Helo Recognition

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Summary

◆ **Joint STARS Provides Battle-Proven Surveillance, Battle Management, And Attack Support Across A Wide Area**

◆ **Joint STARS Will Do For The Ground War What AWACS Has Done For The Air War**

◆ **Joint STARS Will Evolve To Maintain Its Technological Superiority**

> **"We will never again want to fight any kind of combat without a Joint STARS kind of system"**
>
> **Gen McPeak, Chief of Staff, USAF**

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